

AIRPORT DEPARTMENT  
PUBLIC UTILITIES COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO

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PROPOSED EXPANSION PROGRAM  
SAN FRANCISCO (INTERNATIONAL) AIRPORT

DOCUMENTS DEPT

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S. M. DOOLEY, MANAGER AND CHIEF ENGINEER

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BOOK

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--- PROPOSAL ---

IT IS RECOMMENDED THAT GENERAL OBLIGATION BONDS IN THE SUM OF  
\$20,000,000 BE APPROVED FOR THE IMMEDIATE EXPANSION OF THE SAN  
FRANCISCO AIRPORT.

--- ELECTION ---

NOVEMBER 1945

--- COMPLETION OF EXPANSION ---

DECEMBER 1949

573  
D REF 387.736 Sa527p

San Francisco Public  
Utilities Commission.  
Proposed expansion  
program, San Francisco  
[1945]

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## History

The San Francisco Airport came under the jurisdiction of the Public Utilities Commission and the present management on June 1, 1932. At that time the Airport was not an airmail or airline terminal. Facilities were limited--private flying and flight instruction being the main activities and less than twenty privately-owned aircraft were based at the field. There had, however, been some sporadic operation of air passenger companies operating to Los Angeles and San Joaquin Valley points.

In November of 1933 our first bond issue of \$260,000 was approved and resulting airport improvements put San Francisco on the map as a regularly scheduled stop of all existing airmail and passenger operating companies operating to and from the bay area.

In November of 1937 a second bond issue in the sum of \$2,850,000 was approved by a high majority resulting in making San Francisco Airport the main air terminal in the San Francisco bay area and bringing to the field the operating base of United Air Lines.

## The Present

Today, the San Francisco Airport is the main base for all operations of United Air Lines west of Denver and from the Mexican to the Canadian border, and is also the main operating base on the west coast of the United States of Pan American World Airways, Inc. It is the northwestern terminus of Transcontinental and Western Air, Inc., and also Western Air Lines, Inc. San Francisco Airport is recognized throughout the nation as one of the nation's major air terminals.

There are now over 4,500 persons employed in civil activities on the airport receiving payrolls in excess of \$10,500,000 per year. Domestic airlines operating at the airport during 1944 carried a total of 332,969 passengers in and out of the field plus more than 21,000,000 pounds of airmail and 1,600,000 pounds of air express.

If San Francisco is to retain this hard-won dominant position, we must now enlarge our thinking to terms of global international air commerce; and we must immediately expand our airport facilities to meet the demands of global activity as we did to provide for national domestic service in 1937.

## The Future

A conservative prediction of the development of global air commerce in the post-war years based on an analysis by the eminent aeronautical authority Edward Warner, Vice-Chairman, Civil Aeronautics Board, indicates that by 1953 airline operations will require the employment of 16,000 persons on the San Francisco Airport with an annual payroll of \$43,000,000. By this time the airport will be handling approximately 2,700,000 passengers and 220,000,000 pounds of airmail plus 24,000,000 pounds of air express annually.



Section 1

The first section of the Act relates to the power of the Secretary of State to make regulations for the better management of the affairs of the Colonies. It is provided that the Secretary may make such regulations as he thinks fit for the purpose of carrying into effect the provisions of the Act, and that any regulations made by him shall have effect as if they were contained in the Act.

The second section of the Act relates to the power of the Secretary of State to make regulations for the better management of the affairs of the Colonies. It is provided that the Secretary may make such regulations as he thinks fit for the purpose of carrying into effect the provisions of the Act, and that any regulations made by him shall have effect as if they were contained in the Act.

Section 2

The third section of the Act relates to the power of the Secretary of State to make regulations for the better management of the affairs of the Colonies. It is provided that the Secretary may make such regulations as he thinks fit for the purpose of carrying into effect the provisions of the Act, and that any regulations made by him shall have effect as if they were contained in the Act.

The fourth section of the Act relates to the power of the Secretary of State to make regulations for the better management of the affairs of the Colonies. It is provided that the Secretary may make such regulations as he thinks fit for the purpose of carrying into effect the provisions of the Act, and that any regulations made by him shall have effect as if they were contained in the Act.

Section 3

The fifth section of the Act relates to the power of the Secretary of State to make regulations for the better management of the affairs of the Colonies. It is provided that the Secretary may make such regulations as he thinks fit for the purpose of carrying into effect the provisions of the Act, and that any regulations made by him shall have effect as if they were contained in the Act.

The Civil Aeronautics Board has just concluded hearings here in San Francisco on applications of thirteen existing or proposed airline companies who are requesting authority to either expand existing air carrier service to and from San Francisco or to inaugurate new service from our city. The applicants include American Air Lines, Coast Aviation, Los Angeles Airways, Ryan Aeronautical Corporation, Transcontinental and Western Air, Inc., Southwest Airways, West Coast Airlines, Western Air Lines, Inc., United Air Lines, Inc., Nevada-Pacific Airlines, Northwest Airlines, Roy F. Owen Company and Albert L. Zimmerly. In addition to the above, Hawaiian Airlines and Matson Navigation Company have filed their applications for trans-Pacific service in competition with Pan American Airways, United Air Lines and Transcontinental and Western Air.

We anticipate that not more than three of these companies will be granted route certificates in and out of San Francisco at this time, but this is certainly definite recognition of the vital importance of the west coast in the global scheme of air transport, and we can reasonably assume that additional route certificates will be granted as global air transport expands. In specifying San Francisco as their terminal, the airline companies are relying on this city to carry on our demonstrated interest in air commerce by expanding our airport to give them adequate base facilities for their operations.

Further proof of the importance of San Francisco in future world air commerce follows in the form of a photostatic copy of "The Report by the Civil Aeronautics Board Analysts on the Transpacific Area. . ." released early this year. This report is compiled by an agency recognized as one of the best informed sources in the world today--the Civil Aeronautics Board of the United States Department of Commerce.

Also enclosed herein is a photostatic copy of a news release of February 26, 1945, describing Pan American Airways' new landplane designed for trans-oceanic service. The news release is self-explanatory, and we call particular attention to the fact that these aircraft have now actually been ordered and the prototype is presently under construction.

The Public Utilities Commission will soon ask the Board of Supervisors for authority to submit to the voters of San Francisco a proposal for a \$20,000,000 bond issue. These funds will make San Francisco Airport one of the world's finest air terminals, the center of air commerce on the west coast of the United States, and an aeronautical industrial base that will bring to San Francisco and the bay area untold benefits in trade, commerce, payrolls and direct revenues in terms of activity and financial returns that we would not have dared dream of five years ago.

If we are ready to handle this aerial trade and commerce, we can become the base of operations of all airlines on the west coast of the United States. Airline facilities will require large expenditures of private capital on ground areas leased from the City and which will revert to City ownership at the termination of the lease periods. If we carry out the program here proposed such investments of private capital will approximate fifty millions of dollars within ten years following the cessation of hostilities. Furthermore, airline activities at our air-





# TRANSPORT

## Sizable Traffic Potential Seen In CAB Analysis of Pacific Area

Northern, central and southern routes suggested; projected line runs from Sydney, Australia, to London via Auckland, Suva, Pago Pago, Honolulu, San Francisco, Chicago and Montreal or New York.

By MERLIN MICKEL

The report by Civil Aeronautics Board analysts on the Trans-Pacific area, last in a series on overseas air service patterns, goes beyond a favorable view of the air traffic potential in that 70 million square mile region to emphasize its possibilities as a link in future world commercial aviation.

Northern, central and southern routes are suggested across the Pacific, with special attention to the place the southern might play in a long haul air connection between Australasia and the British

Isles. Such a route would serve and cross in transit four widely separated countries of the British Commonwealth, a U. S. territory and metropolitan U. S., plus several minor islands, one French and the others U. S. or British. The report suggests that the historic market indicates "quite substantial interchange of traffic" between the major areas along the entire length of such a route, traffic which consisted of travel by U. S. and British residents in fairly even proportions.

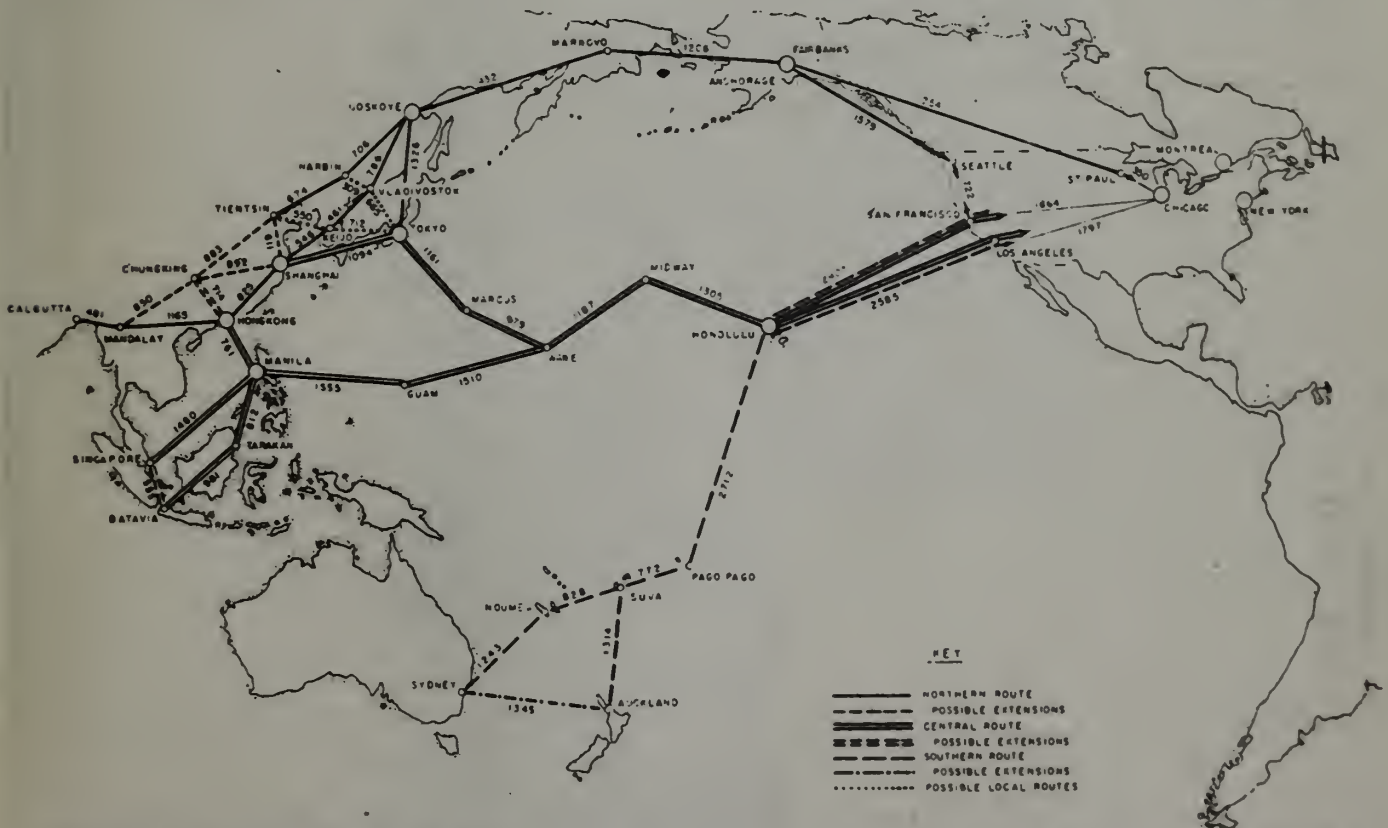
► **Preferred Route**—The interna-

tional route most favored by F. H. Crozier, chief of CAB's Research and Analysis Division, and his associates would run from Sydney, Australia, to London, via Auckland (or Noumea), Suva, Pago Pago, Honolulu, San Francisco, Chicago and Montreal, New York.

It was pointed out, however, that the last of these would mean an over-water segment 400 miles longer than Honolulu-San Francisco, and reliance on commercial support almost altogether on British Isles-Canada traffic and that which might be diverted from Empire routes eastward from the British Isles to Australasia.

Thus the conclusion was reached that the first of these "could be of great mutual benefit to all of the national interests to be served by it."

► **Comparison** — Most interesting feature of the report on the trans-Pacific is the comparison between the suggested northern route, new



**Suggested Trans-Pacific Air Route Pattern:** Map showing northern, central and southern routes in the Pacific region suggested by the Research and Analysis Division of CAB's Economic Bureau. The service pattern shown here is a modification of the Board's

routes tentatively proposed last June after they were analyzed as to route distances in relation to traffic potentials, local traffic situations, and numerous other considerations of an operating and competitive nature.





## Rationing Days to Remember:

**MEAT, CHEESE, BUTTER, CANNED MILK**—Book IV. Red Stamps Q5, R5, S5 good through March 31; T5, U5, V5, W5 and X5 good through April 28; Y5, Z5, A2, B2, C2, D2 valid through June 2. Salvage all fats. Your butcher will give 4c and two red points per pound.

**CANNED FRUITS AND VEGETABLES**—Book IV, Blue Stamps X5, Y5, Z5, A2, B2 good through March 31; C2, D2, E2, F2, G2 good through April 28; H2, J2, K2, L2, M2 good through June 2.

**GASOLINE**—No. 14 coupons through March 31; light line through purchased with "A" Book, as cover, writing new numbers on gas coupons.)

**SUGAR**—Stamp 34 good through June 2.

**SHOES**—Airplane Stamp III, attached, valid in 1½-foot bundles for

## HUGE AIRLINER TO HOP THE SEAS



**STREAMLINED LINER OF THE AIR.**—Here is a model of the giant 204-passenger Consolidated Vultee airplane, largest yet proposed. Pan American World Airways has ordered 15 of these huge Clippers, each of which will carry 204 passengers and 15,300 pounds of baggage, mail and express. You can get an idea of its immensity by the figures of people on the field.

### This Great Ship Will Carry 204 Passengers to Hawaii in 7 Hours

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A fleet of 15 giant 200-passenger clippers for operation over the Atlantic and the Pacific Oceans after the war was described today in a joint announcement by Pan-American World Airways and the Consolidated Vultee Aircraft Corp.

The new land-based clippers—for which contracts have already been signed—will fly from San Francisco to Honolulu carrying 204 passengers and seven tons of baggage, freight, and mail in little more than seven hours.

Three of them, flying only half full, would carry more than 150,000 passengers between the mainland and the Islands in a year—a figure three times greater than the largest pre-war figure for air and sea travel combined. With them, Pan-American could provide daily service between Honolulu and Los Angeles-San Francisco.

The great planes—they have a wing-spread of 230 feet, just a fraction less than the height of the Ferry Building tower—will be powered with six engines along the trailing edge of the wing and use pusher type propellers. They will cruise at 340 miles an hour. Said Pan-American's announcement:

"The enormous capacity and high speed of the new clippers will be translated into unprecedented low fares, not possible with smaller aircraft . . . carrying the average man at rates he can afford. . ."

Pan-American also estimated that a fleet of eight of the giant, double-decked craft could carry across the Atlantic each year nearly 443,000 passengers—two-thirds of the passenger traffic moved on the North Atlantic by the ships of all nations before the war.

The plane is 182 feet long, weighs 160 tons, will fly 4200 miles at 30,000 feet altitude. A full scale model has already been built, and 90 per cent of the engineering, now spread over 16 acres of blue-prints, is completed. Staterooms and berths, lounges

and rest rooms, galleys and deck space; have all been built into the clipper. The interiors were designed by Henry Dreyfuss. The crew, stewards, and galley attendants will have their own quarters.

This monster will eat gasoline by the barrel-full. The tanks, when full, hold more fuel than a motorist could burn in 20 years of city and country driving. The plane will generate and use as much electrical power as a town of 500 inhabitants.

The great steel wings may vibrate as much as six feet in a gust of wind or when banking. The propellers are taller than a two-story home. The landing gear alone weighs five times as much as the average family automobile.

The 230 foot wingspread is twice that of a B-24 bomber, and the fuselage ahead of the wing is longer than the Catalina flying boat overall.

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port will offer employment at excellent wages to thousands of men who will be returning from service in the armed forces of our country.

Los Angeles has already realized the potentialities of the coming age of world air commerce and will vote May the first of this year on a \$12,500,000 bond issue to expand their airport in an effort to overcome our lead. This twelve and one-half millions will, added to their presently available fund of \$3,500,000, build an airport fully equal to the one we propose because of their lower cost of land development.

As emphasized in the report of the Civil Aeronautics Board, which you have just read, San Francisco is the closest city via the central Pacific air route to the greatest yet undeveloped trade area in the world. This trade area, the great Pacific basin, contains one-half of the world's population in countries lying on its shores; and this fact, coupled with our strategic location on the Pacific coast, gives San Francisco the opportunity of becoming the funnel through which a vast air commerce will pour between these foreign countries and the centers of trade and commerce in the United States.

Final emphasis on the strategic location of our city in relation to the new world air trade routes is the decision of the leaders of the world's greatest nations to hold the coming world peace conference in San Francisco. San Francisco was selected because it can be reached by air in the shortest time with the greatest convenience by the delegates of the nations of the world who are now responsible for the future of our world.

That our predictions of impending vast expansion of scheduled airline activity are based on sound reasoning is evidenced by the fact that the total original cost of the entire fleet of airline airplanes operated by all domestic air carriers during 1944 was \$30,000,000. As of today, these same air carriers have placed orders with manufacturers for more than \$200,000,000 worth of new aircraft. Although this fleet of airliners will cost more than six times the present fleet, it would be incorrect to assume that they would only be able to increase existing service six-fold.

The engineering, design and construction of these larger aircraft now on order will be at least ten years ahead of present equipment and will produce far greater revenue loads for the initial investment than our present aircraft, thus making possible substantial reductions in air commerce rates.

The bond issue that we now propose would be used not only for expanding our present airport facilities for the use of scheduled airline companies, but also to provide facilities for all phases of aviation activities including manufacturing, sales, private flying airplane and engine service, and a multitude of allied businesses that go with modern aviation activity.

A tentative list of these activities, and from which the City would receive a substantial revenue, would include the following: drug stores, gift shops, men's and women's apparel shops, news and tobacco stands, a newsreel theater, florists, beauty shops, barber shop and shoe repair shops, turkish baths and showers, baggage checkrooms, conducted airport tours, medical services of all



0-5, 1995

3.

GRAND TOTAL AND AVERAGE YEARLY ESTIMATED REVENUES AND OPERATING COSTS  
SAN FRANCISCO (INTERNATIONAL) AIRPORT  
FIFTEEN-YEAR PERIOD FOLLOWING COMPLETION OF PROPOSED EXPANSION  
1950 - 1964

	<u>GRAND TOTAL</u>	<u>AVERAGE YEARLY</u>
<b>REVENUES</b>		
<u>Source:</u>		
Food and Restaurant Facilities	\$ 2,179,150	\$ 145,277
Public Services and Retail Stores	1,967,050	131,137
Utility Services	5,181,092	345,406
Air Carriers - Foreign and Domestic	4,535,740	302,383
Personal and Commercial Aircraft	1,729,600	115,307
Rentals - Acreage and Structures	2,643,300	176,220
Miscellaneous Other Income	<u>1,808,000</u>	<u>120,533</u>
Total Revenue	\$20,043,932	\$1,336,263
<b>OPERATING COSTS</b>		
<u>Administrative, Operative and Maintenance:</u>		
Permanent Salaries	\$ 6,308,600	\$ 420,573
Temporary Salaries	240,800	16,053
Contractual Services	803,000	53,533
Routine Maintenance - General	963,200	64,213
Light, Heat and Power	278,880	18,592
Materials and Supplies	548,760	36,584
Services--Professional - Special	390,500	26,033
Insurance	435,480	29,032
Pensions and Retirement Allowances	292,160	19,477
Reconstruction and Replacements	<u>2,625,000</u>	<u>175,000</u>
Total Operating Cost (exclusive of Bond Interest, Bond Redemption and Taxes)	\$12,886,380	\$ 859,090
<u>Sub-Recapitulation</u>		
Total Revenue	\$20,043,932	\$1,336,263
Total Operating Cost (exclusive of Bond Interest, Redemption and Taxes)	<u>12,886,380</u>	<u>859,090</u>
NET GAIN	\$ 7,157,552	\$ 477,173



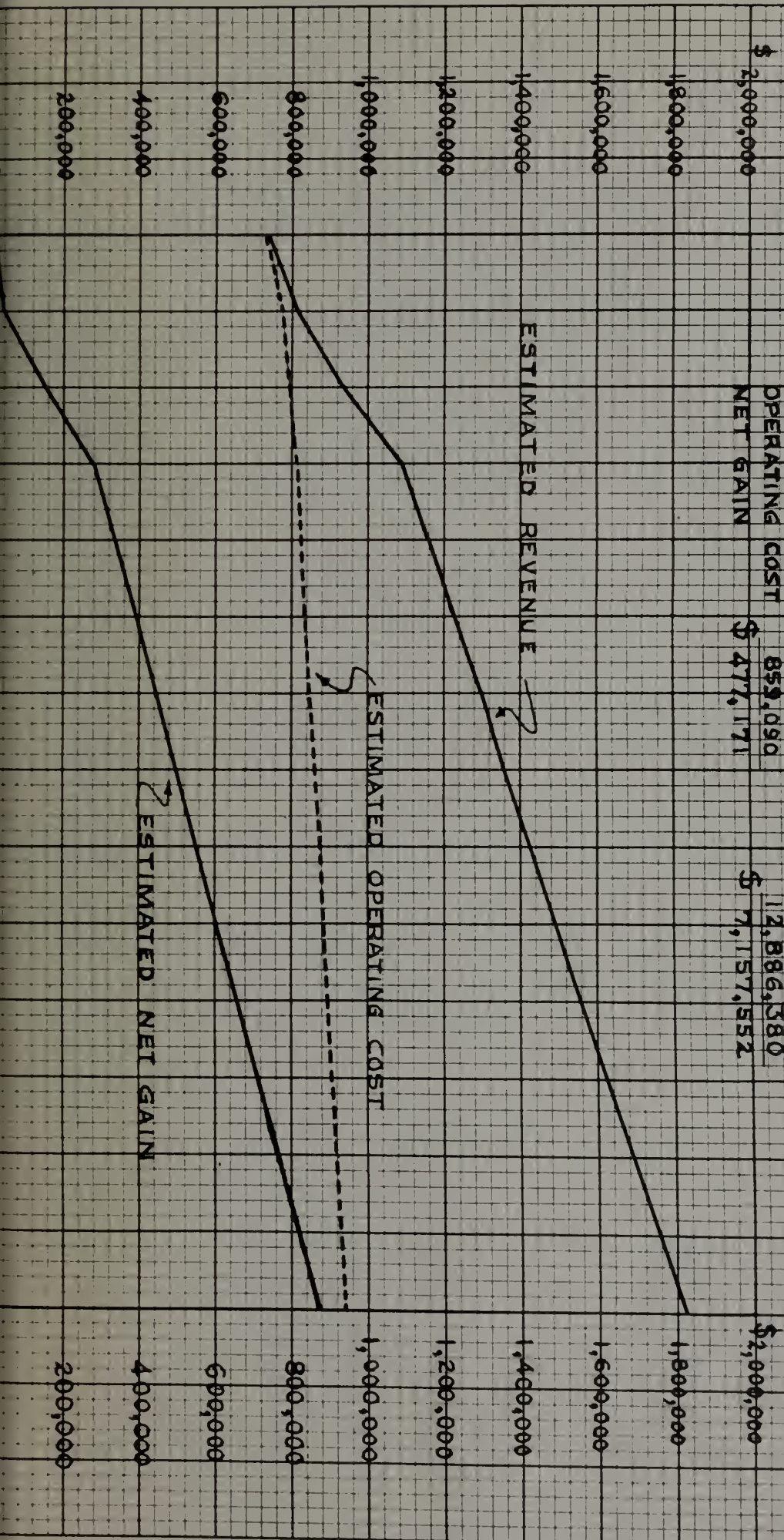


# SAN FRANCISCO AIRPORT

ESTIMATED REVENUE AND OPERATING COSTS  
Exclusive of Bond Interest, Bond Redemption & Taxes

FIFTEEN YEAR PERIOD - FOLLOWING COMPLETION PROPOSED EXPANSION

RECAP	AVERAGE YEARLY	FIFTEEN YEAR TOTAL
REVENUE	\$1,336,263	\$20,043,932
OPERATING COST	859,090	12,886,380
NET GAIN	\$ 477,171	\$ 7,157,552







ESTIMATE OF COST FOR INITIAL STAGE OF THE MASTER PLAN  
OF DEVELOPMENT FOR LANDPLANE AND SEAPLANE TERMINAL

PUBLIC UTILITIES COMMISSION  
ENGINEERING BUREAU  
J. H. TURNER, MANAGER AND CHIEF ENGINEER

Item No.	Description	Total Cost
1.	<u>FILL:</u>  Earth fill to reclaim 470 acres east and south of present field and raise elevation of part of present operating field	   \$ 7,960,000
2.	<u>PAVING:</u>  (a) Four runways, asphalt pavement 150 and 200 feet wide  (b) Taxiways, concrete pavement  (c) Aprons, concrete pavement  (d) Shoulder, surfacing	   1,280,000  930,000  1,320,000  440,000
3.	<u>ELECTRICAL SYSTEM:</u>  (a) Power receiving and distribution substations, and distribution system  (b) Runway contact lights and taxiway guidance lights  (c) Communication system, radio and telephone	   300,000  60,000  60,000
4.	<u>UTILITIES:</u>  (a) Water supply mains and distribution system  (b) Gas supply mains and distribution system  (c) Sewage collection and disposal system	   150,000  20,000  80,000

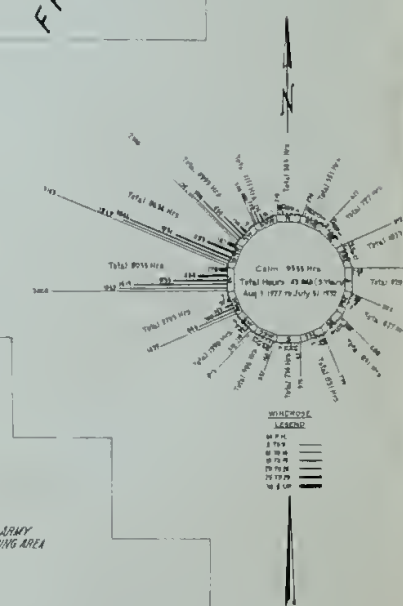
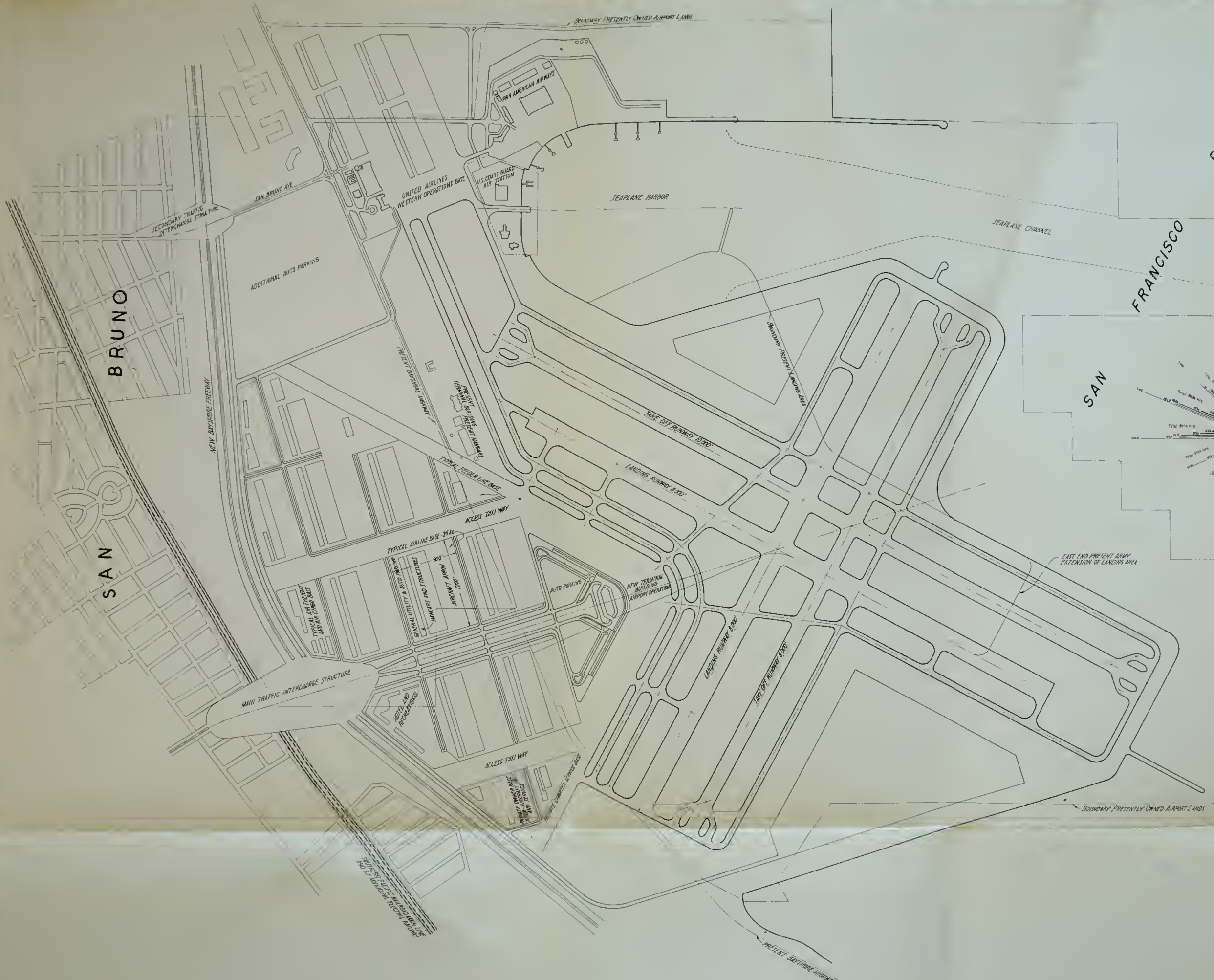


Item No.	Description	Total Cost
5.	<u>DRAINAGE:</u>	
	(a) Field grading for drainage; construction of pipe lines with inlets and manholes	\$ 600,000
	(b) Drainage pumping plants	150,000
	(c) System for disposal of drainage entering airport land from districts west of airport	500,000
6.	<u>UTILITY ROADS:</u>	
	Access road from Bayshore Highway and intercommunicating roads of the airport	250,000
7.	<u>PARKING AREAS:</u>	
	Automobile parking space for general public use	150,000
8.	<u>BUILDINGS:</u>	
	New administration building (first section), field and service buildings, and improvements to existing buildings	2,250,000
9.	<u>LANDSCAPING:</u>	
	Parkway and garden development along access road and in administrative center, and sodding on field for dust and erosion control	150,000
10.	<u>LAND:</u>	
	Purchase of additional land adjoining present property	350,000
11.	<u>BAYSHORE HIGHWAY AND TRANSMISSION LINE CHANCES:</u>	
	City's contribution to construction of highway on airport lands in the proposed new location, and to relocation of electric power transmission lines	<u>1,500,000</u>
	TOTAL	\$18,500,000
	Contingencies, Administration and Engineering	<u>1,500,000</u>
	TOTAL	\$20,000,000









**SAN FRANCISCO INTERNATIONAL AIRPORT**  
 MASTER PLAN OF DEVELOPMENT  
 LANDPLANE AND SEAPLANE TERMINAL  
 AIRPORT DEPARTMENT  
 PUBLIC UTILITIES COMMISSION  
 CITY AND COUNTY OF SAN FRANCISCO  
 DESIGNED BY B. M. DOOLIN, MGR. AIRPORT DEPT.  
 DECEMBER 1944  
 SCALE 1" = 400'

APPROVED *[Signature]*  
 MANAGER OF UTILITIES







